

### REMARKS/ARGUMENTS

Favorable reconsideration of this application is respectfully requested.

Claims 1, 3-7 and 20-33 are present in this application and stand rejected under 35 U.S.C. §103(a) over JP 2002-226926 (Yamauchi) in view of US 2002/0015878 (Tsumura) and over US 4,794,054 (Ito) in view of Tsumura.

The Office Action maintains the rejection based upon Yamauchi and Tsumura, and introduces a new rejection over Ito and Tsumura. Both of these rejections are based upon the notion that particles of the size recited in the claims would result from the downsizing the particle size in the methods described in Yamauchi and Ito. The Applicants previously submitted a declaration demonstrating how the methods taught in Yamauchi would not result in particles having the recited sizes. The Office Action, on page 10, finds that “any method of making would produce the particle size as claimed.” However, this statement cannot be correct since methods inherently incapable of producing particles of the recited claim size exist (and are disclosed in Yamauchi).

The Office Action also finds there is a discrepancy between the previously submitted Declaration and the discussion on page 14, lines 8-11 of the present application describing the methods that may be used to produce ultra fine Pt-containing particles. First, the description on page 14 is of methods of forming ultra fine particles. It does not simply describe any method of forming particles. This is understood from the specification. The Applicants refer the Examiner to lines 21-23 of page 7:

A fuel cell catalyst material according to the present invention  
is obtained by nitriding ultrafine platinum-based particles.

The Applicants also refer the Examiner to page 8, line 19 - page 9, line 1. These lines describe how the inventors made extensive studies and found that:

...when a catalyst material containing platinum-containing  
particles is to be nitrided, the activity of N atoms is higher in an  
NH<sub>3</sub> atmosphere than in an N<sub>2</sub> atmosphere, so the

platinum-containing particles can be nitrided by the combined effect of this highly active  $\text{NH}_3$  atmosphere and downsizing of the platinum-containing particles to a nanosize.

These lines describe how the particles are nitrided by the  $\text{NH}_3$  atmosphere and the platinum-containing particles are downsized to a nanosize. The lines on page 14 referenced in the Office Action (which follow the above-quoted lines), are to be read to include methods that will form “ultrafine” particles and are not intended to include methods which do not produce ultrafine particles. The Applicants have submitted herewith a Declaration from one of the inventors describing how the examples of the methods in the application to produce ultrafine particles was not intended to encompass the rapid cooling or the cooling in a weightless state described in Yamauchi, since these methods cannot produce the claimed ultrafine particles, as discussed in the previously submitted Declaration.

The Applicants respectfully submit that there is no discrepancy between the previously submitted Declaration and page 14, lines 8-11 of the present specification. Applicant respectfully request reconsideration of the outstanding prior art rejections in view of the previously filed Declaration.

As is apparent from the previously submitted Declaration, the process described in Yamauchi cannot produce particles having the average diameter as recited in claims 1, 6 and 7. Thus, the generalized teaching of Tsumura cannot overcome the inherent limitations of Yamauchi where the recited particle diameter cannot be achieved. The claims in the present application are thus patentable over Yamauchi and Tsumura.

In rejecting the claims over Ito, the Office Action states on page 7, line 11- page 8, line 2, and on page 10, lines 13-15, that particles in Ito are prepared by the methods in the claims as supported in the specification. However, the process described in Ito uses a nitrogen atmosphere for nitriding. When nitrogen is used as the atmosphere for nitriding, nitriding of the catalyst precursor particles does not occur as described in paragraph 3 of the

Declaration submitted herewith. As Pt-containing nitride particles will not result from the disclosure of Ito, and Tsumura is only relied upon for downsizing the particles, claims 1, 3-7, 20-23 are also patentable over a combination of Ito and Tsumura.

It is respectfully submitted that the present application is in condition for allowance, and a favorable action to that effect is respectfully requested.

Respectfully submitted,

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